

AMENDMENTS TO THE CLAIMS

Please cancel claim 3 without prejudice or disclaimer, add new claims 9-20 and amend the claims as follows:

1. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:
a first layer ~~made of~~ comprising a Ga₂O₃ system semiconductor single crystal substrate; and
a second layer obtained by replacing a part [[or]] rather than all of oxygen atoms of the first layer with nitrogen atoms.
2. (Currently Amended) A semiconductor layer according to claim 1, ~~characterized in that: wherein~~ the second layer ~~is made of~~ comprises a GaN system compound semiconductor.
3. (Cancelled.)
4. (Currently Amended) A semiconductor layer according to claim 1, ~~characterized in that: wherein~~ the first layer ~~is made of~~ comprises Ga₂O₃, (In_xGa_{1-x})₂O₃ where 0 ≤ x < 1, (Al_xGa_{1-x})₂O₃ where 0 ≤ x < 1, (In_xAl_yGa_{1-x-y})₂O₃ where 0 ≤ x < 1, 0 ≤ y < 1, and 0 ≤ x + y < 1, ~~or the like,~~ as a main constituent.
5. (Currently Amended) A semiconductor layer according to claim 2, ~~characterized in that: wherein~~ the second layer ~~is made of~~ comprises GaN, In_zGa_{1-z}N where 0 ≤ z < 1, Al_zGa_{1-z}N where 0 ≤ z < 1, In_zAl_pGa_{1-z-p}N where 0 ≤ z < 1, 0 ≤ p < 1, and 0 ≤ z + p < 1, ~~or the like,~~ as a main constituent.
6. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:
a first layer ~~made of~~ comprising a Ga₂O₃ system semiconductor;
a second layer ~~made of~~ comprising a GaN system compound semiconductor and obtained by replacing a part or all of oxygen atoms of the first layer with nitrogen atoms;
and

a third layer ~~made of comprising~~ an GaN system epitaxial layer and ~~formed grown~~ on the second layer.

7. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:
a first layer ~~made of comprising~~ a Ga₂O₃ system semiconductor; and
a second layer ~~made of comprising~~ a GaN system compound semiconductor and formed on the first layer,
wherein the first layer comprises at least one of (In_xGa_{1-x})₂O₃ where 0 < x < 1,
(Al_xGa_{1-x})₂O₃ where 0 < x < 1, (In_xAl_yGa_{1-x-y})₂O₃ where 0 < x < 1, 0 < y < 1, and 0 < x + y < 1.
8. (Currently Amended) A semiconductor layer, ~~characterized by~~ comprising:
a first layer ~~made of comprising~~ a Ga₂O₃ system semiconductor;
a second layer ~~made of comprising~~ a GaN system compound semiconductor and formed on the first layer; and
a third layer ~~made of comprising~~ an GaN system epitaxial layer and ~~formed grown~~ on the second layer.
9. (New) A semiconductor layer according to claim 1, wherein the first layer consists of a single crystal β-Ga₂O₃.
10. (New) A semiconductor layer according to claim 9, wherein the single crystal β-Ga₂O₃ has a prismatic shape having a square in cross section, and its axis direction matches a-axis <100> orientation, b-axis <010> orientation, or c-axis <001> orientation.
11. (New) A semiconductor layer according to claim 1, wherein the first layer comprises (In_xGa_{1-x})₂O₃ where 0 < x < 1.
12. (New) A semiconductor layer according to claim 1, wherein the first layer comprises (Al_xGa_{1-x})₂O₃ where 0 < x < 1.
13. (New) A semiconductor layer according to claim 1, wherein the first layer comprises

$(In_xAl_yGa_{1-x-y})_2O_3$ where $0 < x < 1$, $0 < y < 1$, and $0 < x + y < 1$.

14. (New) A semiconductor layer according to claim 6, wherein the second layer comprises a same compound semiconductor as the third layer.

15. (New) A semiconductor layer according to claim 6, wherein the first layer consists of single crystal β - Ga_2O_3 .

16. (New) A semiconductor layer according to claim 7, wherein the first layer further comprises a single crystal β - Ga_2O_3 .

17. (New) A semiconductor layer according to claim 16, wherein the single crystal β - Ga_2O_3 has a prismatic shape having a square in cross section, and its axis direction matches a-axis <100> orientation, b-axis <010> orientation, or c-axis <001> orientation.

18. (New) A semiconductor layer according to claim 7, further comprising a third layer comprising an GaN system epitaxial layer grown on the second layer.

19. (New) A semiconductor layer according to claim 8, wherein the second layer comprises a same compound semiconductor as the third layer.

20. (New) A semiconductor layer according to claim 8, wherein the first layer consists of single crystal β - Ga_2O_3 .

21. (New) A semiconductor layer, comprising:
a first layer comprising a Ga_2O_3 system single crystal substrate; and
a second layer obtained by replacing a part rather than all of oxygen atoms of the first layer with nitrogen atoms, wherein the second layer comprises a GaN system compound semiconductor.